

*Short Communication*

## SUPPLEMENTARY FEEDING EFFECT OF PROBIOTIC AND MINERAL MIXTURE ON WEIGHT GAIN OF KIDS OF TELLICHERRY GOAT

<sup>a</sup>Geetha, T. & <sup>b</sup>Tensingh Gnanaraj, P.

Instructional Livestock Farm complex, Madhavaram Milk Colony, Chennai-51

Corresponding author email: geethadgeetha@gmail.com

### ABSTRACT

This study aims to examine the growth of kids exclusively fed on grazing, compared to those fed on probiotic and mineral mixture supplementation independently and in combination for a period of 12 months. Forty eight 2 months old Tellicherry kids were divided into four groups with 12 kids in each. The control group (T1) of kids maintained on natural grazing on pasture land for 6-8 h per day. The second group (T2) received probiotic along with grazing. The third group (T3) was given mineral mixture @50g/d while T4 group kids had mineral mixture besides probiotics along with grazing. The result showed that probiotic and mineral mixture supplementary feeding had a significant effect on growth of kids.

**KEY WORDS:** Tellicherry kids, Probiotic, Mineral mixture supplements.

### INTRODUCTION

Goat production contributes to farm revenues and creates employment opportunities for the weaker sections of the society. The economic role of animals is to deliver benefits in terms of consumable livestock products which lead to livelihood of the family because these create an avenue of income generation in food markets. The potential of small ruminants, especially goats, as an effective and feasible way of enhancing livelihoods of the poor people is still under-exploited. In the view of the role of goats in the economy of the country, the present study has been planned to record the effect of supplementary feeding to goats on natural grazing.

### MATERIALS & METHODS

Present experiment was conducted at the Instructional Livestock Farm Complex, TANUVAS, Madhavaram milk colony. Forty eight kids of both sexes weaned at eight weeks were divided into four equal groups. Kids maintained on natural grazing formed control group T1. Treatment group-2 received probiotic in bolus form containing  $1.4 \times 10^9$  cfu/d. Group-3 kids were provided mineral mixture @50g/day. The group-4 kids were fed combination of Probiotic and mineral mixture. Duration of experiment was 12 months and natural grazing on pasture land for 6 to 8 h was common to all the groups. Mineral mixture used in the study was prepared in Central Feed Technology Unit, Kattupakkam and contains calcium-23%, phosphorus-12%, magnesium-6.5%, iron-0.5%, iodine-0.026%, copper-0.077%, manganese-0.12%, cobalt-0.012%, zinc-0.38%, sulphur-0.5%, fluorine-0.07%, selenium -0.3ppm. Economics of rearing kids was worked out for the experimental period. Data collected for effect of supplementary feeding on weight gain of Tellicherry kids were analysed statistically to draw conclusions (Snedecor and Cochran, 1994).

### RESULTS & DISCUSSION

Probiotic and mineral mixture feeding had a significant ( $P < 0.05$ ) effect on growth of kids. At 12 month of age kids fed with probiotics and mineral mixture (T-4) weighed heavier (30.51 kg) than kids fed control diet (21.25 kg) indicating that the product positively influenced body weight gain of kids. Average daily gain for T2 and T4 averaged respectively 76.49 and 77.56 g/d, which differed significantly ( $P < 0.05$ ) when compared to control group (Table-I). Kids fed under T4 attained 41% higher growth rate than kids reared on grazing alone though the difference between growth rate of kids under T2 and T4 groups were more or less similar and observed to be non significant. The findings are in close agreement to earlier reports (Rohilla *et al.*, 2010, 2006).

Response of growing kids to probiotics and mineral mixture might be due to increased dry matter intake; as cell products stimulate gut microbes in rumen resulting in improved digestibility of starch fiber and crude protein present in the diet. Live cells present in probiotic causes better utilization rumen ammonia. It improves production of microbial protein and volatile fatty acids, while decreases lactic acid peaks in the rumen and stabilizes rumen PH (Kander *et al.*, 2000; Rohilla and Bohra., 2007). During the trail it was also observed that kids fed under Treatment group II and IV had less left feed only, recorded increased dry matter and water intakes at the end of the trail. Economics of rearing kids using probiotic and mineral mixture was worked out for the experimental period. It was found that net returns per kid were highest under Treatment group-II (Rs.2538) among the four groups. Hence, probiotic feeding of kids (for higher growth rate) has been found significantly ( $P < 0.05$ ) beneficial and economical (Rohilla *et al.*, 2008). Based on present findings may be suggested that growing kids

reared economically if provided probiotic alone or even in combination with mineral mixture for higher profits.

**TABLE I:** Effect of supplementary feeding on weight gain of Tellicherry Kids

Particulars	T-1(Grazing)	T-2 (Probiotic)	T-3(Mineral Mixture)	T-4 (Probiotic +Mineral Mixture)
Initial body weight(Kg)	2.05±0.03 <sup>a</sup>	2.16±0.05 <sup>c</sup>	2.12±0.10 <sup>b</sup>	2.20±0.07 <sup>c</sup>
Final body weight(Kg)	21.25±0.28 <sup>a</sup>	30.08±0.18 <sup>c</sup>	26.37±0.34 <sup>b</sup>	30.51±0.25 <sup>c</sup>
Total gain(kg)	19.20±0.17 <sup>a</sup>	27.92±0.31 <sup>c</sup>	24.25±0.21 <sup>b</sup>	28.31±0.41 <sup>c</sup>
Average Daily Gain (g/d)	52.60±0.62 <sup>a</sup>	76.49±0.54 <sup>c</sup>	66.43±0.48 <sup>b</sup>	77.56±0.16 <sup>c</sup>

The mean values with different superscripts in the rows differ significantly (P<0.05).

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